

REMARKS

Applicants have studied the Office Action dated December 23, 2003 and have made amendments to the claims. No new matter has been added. It is submitted that the application, as amended, is in condition for allowance. By virtue of this amendment, claims 1-18 are pending. Claims 1-18 have been amended. Reconsideration and further examination of the pending claims in view of the above amendments and the following remarks is respectfully requested. In the Office Action, the Examiner:

(2-3) Rejected claims 1-18 under 35 U.S.C. § 103(a) as being unpatentable over Gupta et al. (U.S. Patent No. 6,415,326) in view of Ravi (U.S. Patent No. 6,292,834).

The Applicants respectfully submit that the Examiner's rejection under 35 U.S.C. § 103(a) have been overcome based on the aforementioned amendments to the claims and the following remarks.

Overview of the Present Invention

The present invention is directed to a method and system for limiting the usage of data communications bandwidth when transferring a specified data item across a data link, wherein the specified data item is delivered in its entirety prior to being accessed. The present invention is not related to the delivery of "streaming" multimedia, but rather to the delivery of digital content in its entirety prior to its being accessed. In one aspect of the present invention, data is transmitted by receiving a request for a specified data item at a server and by receiving a speed indication signal at the server from the requesting computer. The speed indication signal comprises an indicated speed of transmission. The operation of the present invention then operates by limiting an average rate of transmission of at least a portion of the specified data item across a data link to the requesting computer to be not greater than the indicated speed, wherein the indicated speed is less than the data rate of the data link and the data rate capacity of the server.

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Claim Amendments

Independent claims 1, 6 and 11 have been amended to more clearly identify that this aspect of the claimed invention operate by: receiving a request for a specified data item, and by limiting an average rate of transmission of at least a portion of the specified data item. Dependent claims that depend from these claims have also been amended to conform to this clarification. Independent claims 5, 10 and 15 have been similarly amended. Support for these amendments is found in the specification at, for example, page 4, line 22 through page 5, line 5. No new matter has been added.

Independent claims 1, 6 and 11 have also been amended to clarify the "specified data item" by specifying that "the specified data item to be delivered in its entirety prior to being accessed[.]" Independent claims 5, 10 and 15 have been similarly amended. Support for this amendment is found in the specification at, for example, page 4, line 23-26 and page 5, line 24, especially in light of the discussion of the problem solved by the present invention, as discussed at, for example, page 2, lines 9-12 and 22-25.

Independent claims 1, 6 and 11 have been further amended to clarify that the indicated speed is less than the data rate of the data link and less than the data rate capacity of the server. This amendment simply rewords the claim to explicitly modify both data rate terms. No new matter has been added.

Independent claims 5, 10 and 15 have been amended to provide proper antecedent basis for the "user" input speed described in the third limitation of these claims. Support for these amendments is found in the specification at, for example, page 6, lines 3-15. These independent claims have been further amended to clarify that the schedule limits an average transmission rate. Support for these amendments is found in the specification at, for example, page 10, lines 1-4. No new matter has been added by these amendments.

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Dependent claims 2, 7, and 12 have been amended to more clearly describe the step of: determining a period based at least on the average transmission rate, wherein the period is longer than the period required to transmit the block size at the data rate of the data link. Support for this amendment is found in the specification at, for example, page 6, lines 3-17. No new matter has been added by these amendments.

Rejection under 35 U.S.C. §103(a) as being unpatentable over Gupta in view of Ravi

As noted above, the examiner rejected claims 1-18 under 35 U.S.C. § 103(a) as being unpatentable over Gupta et al. (U.S. Patent No. 6,415,326) (hereinafter Gupta) in view of Ravi (U.S. Patent No. 6,292,834) (hereinafter Ravi).¹ The Examiner recites 35 U.S.C. §103. Although the Examiner indicates that Gupta discloses the invention substantially as claimed, a determination of obviousness or non-obviousness, as expressly specified in the Statute cited by the Examiner, of the claimed subject matter requires giving full recognition to the claimed subject matter "as a whole."

To begin, the disclosure of Gupta is directed towards a streaming multimedia player that is able to change video or audio playback speeds by selecting different media streams that are all previously stored on a server. Gupta, Abstract, Column 6, lines 57-65. Gupta defines the term "streaming" at column 1, lines 30-34 as follows: (emphasis added)

The term "streaming" is used to indicate that the data representing the various media types is provided over a network to a client computer on a realtime, as-needed basis rather than being pre-delivered in its entirety before playback.

The focus of the Gupta disclosure is on techniques for selecting a point within the different media stream that corresponds to the currently displayed point of a currently viewed media stream. Gupta, column 9, lines 5-17; column 10, lines 31-39. The user of

¹ Applicants make no statement whether such combination is even proper.

the Gupta invention selects a time altered media stream, such as a multi-media segment that contains a fast forward version of a primary media stream. Gupta, column 8, lines 51-64.

The Ravi reference is directed to adjusting multimedia stream transmission rates so as to match the available capacity of either the communications link or the available processing power of the receiving node. The transmission rate is adjusted in response to "Decrease Bandwidth" (DEC_BW) message or a converse "Increase Bandwidth" message. The receiving node provides these increase or decrease bandwidth messages as feedback from the receiving node to the transmitting node. These bandwidth messages are based upon excesses or deficiencies in the speed of either (i) processing or (ii) communications as observed at receiving node. Ravi, Abstract, FIG. 11. The "Increase Bandwidth" or "Decrease Bandwidth" messages are not taught to include an "indicated speed," but rather they convey only an "increase" or "decrease" instruction.

By way of analogy, a data transmission rate can be analogized to an audible volume control on a television. The "decrease bandwidth" and "increase bandwidth" messages of the Ravi disclosure are similar to "Volume Up" and "Volume Down" controls commonly found on a television. In contrast, the "indicated speed of transmission" as claimed by the present invention is analogous to specifying that the volume control is to be set to a value of 25% of total audio output.

Applicants have also amended independent claims 1, 5, 6, 10, 11 and 15 to specify that "the specified data item to be delivered in its entirety prior to being accessed[.]" Examples of this type of transfer are described in the specification as File Transfer Protocol (FTP) requests. See, Specification, page 4, lines 23-25. FTP file transfers, where the entire data object is transferred prior to being accessed by the receiving computer, are clearly distinguished from the "streaming multimedia data streams" taught by the Gupta and Ravi references. As taught by Gupta, "streaming" is used to indicate that the data representing the various media types is provided ... on a realtime, as-needed bases, rather

then being pre-delivered in its entirety before playback." Gupta, Column 1, lines 30-34. Ravi is similarly restricted to streaming multi-media. Ravi, Column 3, lines 2-5.

Applicants respectfully assert that the application of Gupta and Ravi, which are restricted to streaming multimedia applications, to the application of the presently claimed invention wherein "the specified data item to be delivered in its entirety prior to being accessed" is not appropriate. Streaming multimedia data transfers send data to a client computer that uses the packets as they arrive. See, Ravi, column 2, lines 9-19. File transfers that do not access data prior to the completion of the data transmission, such as FTP file transfers, do not permit access to a downloaded data item until the transfer is complete. Users generally have a desire to access data items as soon as possible after the data item is requested. Therefore, adjusting the transmission speed downward in an FTP transfer is not analogous to slowing down the transmission speed in a streaming multimedia download where data is not required to be delivered any faster than the data is needed for presentation to the user.

Applicants further assert that neither the Gupta reference or the Ravi reference, taken either alone or in combination, teach, suggest or make obvious the claimed invention, taken as a whole, which includes:

limiting an average rate of transmission of at least a portion of the specified data item across a data link to the requesting computer to be not greater than the indicated speed, wherein the indicated speed is less than the data rate of the data link and less than the data rate capacity of the server.

The Examiner correctly states, in section 2, page 2, last paragraph of the Office Action, that the Gupta reference does not teach the above element. Applicants respectfully traverse the Examiner's assertion that application of the Ravi reference to the Gupta reference would teach, suggest or make obvious the claimed invention "as a whole." Neither the Gupta reference or the Ravi reference teach limiting an average rate of

transmission of at least a portion of the specified data item ... to be not greater than an indicated speed wherein the indicated speed is less than the data rate of the data link and less than the data rate capacity of the server as is claimed for the present invention. As discussed above, Gupta teaches selection of one of a plurality data items, i.e., composite data streams, to vary "speed."

As noted by the Examiner, Ravi discloses that "the transmission rate of the data stream is dynamically adjusted in response to changes in the bandwidth made available by the computer network for the network connection between the server and the client computer." Office Action, page 3, 1st paragraph. Further Ravi only teaches transmission of a message to "increase bandwidth" or "decrease bandwidth" messages from the client to the server. The present invention provides a large variety and hence greater granularity than the message to increase or decrease bandwidth. The present invention also varies the transmission speed of the specified data item, in contrast to Gupta. In further contrast to the Gupta and Ravi references, the present invention allows direct specification of the average transmission rate, by receiving a speed indication signal at the server from the requesting computer, wherein the speed indication signal comprises an indicated speed of transmission of the specified data item.

Applicants further respectfully assert that the Gupta and Ravi references, which are concerned solely with the distribution of streaming multimedia, teach away from the delivery of a specified data item to be delivered in its entirety prior to being accessed, as is recited by amended independent claims 1, 6 and 11. Prior art that teaches away is a *per se* demonstration of lack of *prima facie* obviousness.²

Moreover, the Gupta reference is directed to the selection of different data items based upon the playback speed selected by a user. No determination, processing associated with, or direct limitation of transmission rates across the data link is mentioned

² See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

transmitting the user request for a specified data item to a server computer; and

sending a sequence of pause transmission and resume transmission signals from the client computer to a server computer according to the schedule.

Applicants respectfully point out that the Examiner refers to both the Gupta and Ravi references as prior art teaching for the elements of claims 5, 10 and 15. The Examiner's citations to the prior art for individual claim elements, however, do not identify the Gupta or Ravi reference, only columns and lines. Applicants assume that these citations are to the Gupta reference, since these portions of the Ravi reference appear to be less related to the claimed elements.

With regards to the elements of claims 5, 10, and 15, Applicants are unable to identify in either the Gupta or Ravi references any teaching of the following:

(A) "Generating a schedule for issuing pause transmission and resume transmission signals...."

A text search of both the Gupta and Ravi references fails to find the word "schedule." The cited portions of Gupta discuss time compression and expansion for composite media streams. Gupta, column 6, lines 42-47. If the citations in the Office Action refer to Ravi, those portions of Ravi correspond to the portions of Ravi discussed above that discuss adjusting transmission rate in response to changes in bandwidth. Ravi, column 6, lines 42-47.

Applicants respectfully assert that neither the Gupta or Ravi references, taken alone or in combination with one another, teach, suggest or make obvious "generating a schedule" or issuing "pause transmission and resume transmission signals" as is specified by this element of claims 5, 10 and 15.

(B) "sending a sequence of pause transmission and resume transmission signals from the client computer to the server computer according to the schedule"

Applicants further respectfully assert that the "'pause removal' type of time compression" that was referred to in the passage cited by the Examiner, in Gupta in Column 7, lines 63 through Column 8, line 5, is not related to the "pause transmission" and the "resume transmission" as is claimed for the present invention. Applicants further respectfully assert that cited references, especially the cited portions of the Gupta reference, do not even mention sending a sequence of pause transmission and resume transmission signals from the client computer to the server computer according to the schedule, as is claimed for an aspect of the present invention. If the citations in the Office Action refer to Ravi, those portions of Ravi discuss calculation of thresholds that cause "Increase Bandwidth" and "Decrease Bandwidth" commands to be sent. This cited portion does not even refer to actually sending these commands. Applicants further respectfully assert that these commands are not analogous to "pause transmission" and "resume transmission signals" as specified in claims 5, 10 and 15.

Therefore, Applicants respectfully assert that the Gupta and Ravi references, taken either alone or in combination with each other, fail to teach, suggest or make obvious the claimed invention "as a whole," as is claimed by claims 5, 10 and 15. For at least the reasons discussed above, Applicants respectfully assert that claims 5, 10 and 15 distinguish over the Gupta and Ravi references, taken either alone or in combination, and that the rejection of these claims under 35 U.S.C. §103(a) should be withdrawn.

In regard to claims 2, 7 and 12, Applicants have amended these claims to specify that "the period is longer than a period required to transmit the block size at the data rate of the data link." Applicants respectfully assert that this added limitation is not taught, suggested or made obvious by Gupta or Ravi, taken either individually or in combination with one another.

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Applicants further respectfully assert that the Examiner's equating providing data "over a network to a client computer on a real-time, as-needed basis" to "in block" or "transmitting a plurality of blocks of data" as is recited in claims 2, 7 and 12, fails to consider these claims "as a whole." These claims recite determining "block size" and "period" based upon the average transmission rate, but, as discussed above, the average transmission rate "is less than the data rate of the data link and less than the data rate capacity of the server" as is defined in the independent claims from which claims 2, 7 and 12 depend. Further, Applicants have amended claims 2, 7 and 12 to more clearly identify this relationship, as was discussed above.

In further regard to the rejection of claims 2, 7, and 12, the Examiner further took official notice that:

it is well known that when streaming data, the data is provided in blocks wherein the size of the blocks and the period in which the blocks of data would be streamed are determined based upon the indicated or determined speed.

Office Action, Page 5, Section 2 (Emphasis Added).

Applicants note that the Examiner has supplied three (3) references as support for this official notice. Applicants reassert their traversal of the assertion of this official notice. Applicants further note that the MPEP cites that a reference should be cited.³ Applicants have reviewed the cited references and respectfully reassert that although these references do indicate that data is divided into blocks for transmission, Applicants further respectfully assert that these references do not indicate that the size of the blocks, or that the period at which blocks are transmitted, is determined based upon the indicated or determined speed.

³ See, MPEP §2144.03, "If the applicant traverses such an assertion the examiner should cite a reference in support of his or her position."

With respect to this official notice, Applicants respectfully point out that the relevant "speed" in the interpretation of claims 2, 7 and 12 is "the average transmission rate" that is discussed in detail above to be "less than the data rate of the data link and the data rate capacity of the server." Applicants acknowledge that once one of the block size and the transmission period is selected, the other quantity is determined by the data transmission rate. However, this aspect of the presently claimed invention "as a whole," as for example claimed by amended claim 2, requires that "limiting an average rate of transmission" comprise:

determining a block size based at least on the average transmission rate;

determining a period based at least on the average transmission rate, wherein the period is longer than the period required to transmit the block size at the data rate of the data link; and

transmitting a plurality of blocks of data, each of the blocks having the block size and being transmitted at intervals substantially equal to the time period.

Applicants respectfully assert that the cited references do not support all of the elements of the officially noted facts. As noted by the examiner, Gupta does not teach the above listed elements. Applicants respectfully assert that neither the Gupta reference or the Ravi reference, either taken alone or in combination with each other, teach, suggest or make obvious the invention "as a whole" as is claimed by claims 2, 7, and 12. For at least the reasons discussed above, Applicants respectfully assert that amended claims 2, 7 and 12 distinguish over the Gupta and Ravi references, taken either alone or in combination, and that the rejection of these claims under 35 U.S.C. §103(a) should be withdrawn.

As discussed above, independent claims 1, 5, 6, 10, 12 and 13 distinguish over the Gupta and Ravi references. Furthermore, dependent claims 2-4, 16; 7-9, 17 and 12-15,

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18 depend from claims 1, 6 and 11, respectively, and contain all of the limitations of those claims. Therefore, dependent claims 2-4, 16; 7-9, 17 and 12-15, 18 distinguish over the Gupta and Ravi references for at least the same reasons, and therefore the rejection of these claims under 35 U.S.C. §103(a) should also be withdrawn.

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CONCLUSIONS

In view of the foregoing, it is respectfully submitted that the application and the claims are in condition for allowance. Reexamination and reconsideration of the application, as amended, are requested.

PLEASE, if for any reason the Examiner finds the application other than in condition for allowance, the Examiner is invited to call either of the undersigned attorneys at (561) 989-9811 should the Examiner believe a telephone interview would advance the prosecution of the application.

Respectfully submitted,

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